

## **RYM MSADEK**

GFDL/NOAA

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### **Education**

2009: Ph.D. in Physical Oceanography and climate, University of Paris, France

2005: Master degree in applied mathematics and Engineer degree in mathematical modeling and mechanics, University of Bordeaux, France

### **Employment and Research Experience**

2011-present: Research scientist at GFDL/NOAA, Princeton, NJ

2009-2011: Postdoctoral fellow at GFDL and Atmospheric and Oceanic Sciences Program, Princeton University, Princeton, NJ, supervised by Dr. T. Delworth. Project title: *Assessing the decadal variability and predictability of the climate system*.

2005-2008: Doctoral research assistant at LOCEAN/IPSL Paris, France, supervised by Pr. C. Frankignoul . Dissertation title: *Role of the thermohaline circulation in climate*

2005 (6 months): Undergraduate research assistant at NIWA Wellington, New Zealand, supervised by Dr. S. Popinet . Master thesis title: *Hydrodynamic tidal model of Cook Strait*

2004 (3 months): Undergraduate research assistant at Kyoto University, Japan, supervised by Pr. K. Aoki  
Project title: *Kinetic theory analysis of gas flows using Boltzmann equation*

### **Affiliations**

Member of: Mentoring Physical Oceanography Women to Increase Retention, American Geophysical Union, U.S. CLIVAR Working Group on Decadal Prediction

### **Awards received**

Award for Outstanding Scientific Presentation at the World Climate Research Program (WCRP), 2011

### **Referee**

Journal of Climate, Geophysical Research Letters, Climate Dynamics, Ocean Sciences, Ocean Modeling, Journal of Geophysical Research, AGU Geophysical Monograph Series, NOAA Climate Program Office, NSF Physical Oceanography Program

### **Publications**

Goddard L., A. Kumar, A. Solomon, D. Smith, G. Boer, P. Gonzalez, C. Deser, S. Mason, B. Kirtman, **R. Msadek**, R. Sutton, E. Hawkins, T. Fricker, S. Kharin, W. Merryfield, G. Hegerl, C.

- Ferro, D. Stephenson, G.A. Meehl, T. Stockdale, R. Burgman, A. Greene, Y. Kushnir, M. Newman, J. Carton, I. Fukumori, D. Vimont, T. Delworth, 2012: A verification framework for interannual-to-decadal predictions experiments, *submitted to Climate Dynamics*
- Zhang, D, **R. Msadek**, M. J. McPhaden, and T. Delworth, 2011 : Multidecadal variability of the North Brazil current and its connection to the Atlantic Meridional Overturning Circulation, *J. Geoph. Research*, 116 doi:10.1029/2010JC006812
- Msadek R.**, K. W. Dixon, T. Delworth and W. Hurling, 2010: Assessing the predictability of the AMOC and associated fingerprints, *Geophys. Res. Letters.*, 37, doi:10.1029/2010GL044517
- Msadek R.**, C. Frankignoul and Z. X. Li, 2010: Mechanisms of the atmospheric response to North Atlantic multidecadal variability : a model study. *Climate Dynamics*, doi:10.1007/s00382-010-0958-0
- Msadek R.** and C. Frankignoul, 2009 : Atlantic multidecadal oceanic variability and its influence on the atmosphere in a climate model. *Climate Dynamics*, doi:10.1007/s00382-008-0452-0

### Recent communications

- “Verification of decadal forecasts: results from the GFDL coupled model experiments” (poster) and “Comparing the meridional heat transport at 26.5°N and its relationship with the MOC in two CMIP5 coupled models and in RAPID-array observations” (oral presentation), WCRP, Denver, October 2011.
- “Predicting decadal changes in the North Atlantic using GFDL model forecasts”, AGCI Workshop on decadal prediction, Aspen, June 2011.
- "Challenges of predicting the AMOC, use of RAPID data and coupled models", RAPID/USAMOC International science meeting, Bristol, July 2011
- "AMOC variability and predictability " NOAA/AOML, Miami, May 2011
- "Decadal Variability and predictability of climate", JPL/NASA, Pasadena, April 2011
- "Assessing the decadal variability and predictability of climate in the GFDL cmodel", LDEO, Columbia University, New York, October 2010
- "Decadal variability and predictability of climate in the GFDL coupled models", WHOI, Woods Hole, September 2010
- "Decadal variability and predictability ", Clivar workshop, Boulder, September 2010
- "A coupled model-observation comparison of Atlantic heat transport associated with the AMOC", US AMOC meeting, Miami, June 2010
- "Assessing the potential predictability of the AMOC in the GFDL CM2.1 climate model", Ocean Sciences meeting, Portland and PMEL/NOAA, Seattle, February 2010
- "North Atlantic storm track response to decadal fluctuations of the AMOC", AGU, San Francisco, December 2009

### Teaching experience

- 2009-present **Volunteer Prison Teaching** at Garden State Youth Correctional Facility, New Jersey, Math courses accredited by Mercer County Community College
- 2006-2008 **Teaching assistant at Ecole Polytechnique**, Paris  
Geophysical fluid dynamics lectures and experiments related to the stability of the thermohaline circulation

### Personal Skills

Programming languages/ Mathematical softwares: Fortran, C, Matlab, Ferret  
Languages spoken : English (fluent), French (mother tongue), Arabic (bilingual)